CULTURAL RESOURCES SURVEY OF THE NEW EBENEZER 69kV DISTRIBUTION SUBSTATION, ORANGEBURG COUNTY, SOUTH CAROLINA

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ABSTRACT

This study reports on an intensive archaeological and cultural resources survey of approximately 5.6 acres of land to be used for the placement of a distribution substation in the eastern portion of Orangeburg County, South Carolina. The work was conducted to assist Central Electric Power Cooperative comply with Section 106 of the National Historic Preservation Act and the regulations codified in 36CFR800.

The tract is to be used by Central Electric Power Cooperative for the construction of the New Ebenezer Distribution Substation, which is actually an expansion of the existing facility. The proposed substation will be constructed to the northwest and southeast of the existing substation, which will be incorporated into the facility. The work is situated next to an existing transmission line and is located on S-549 (Duncan Chapel Road). The proposed property consists of a generally level land that has been recently cleared for the construction of this substation.

The proposed substation will require the clearing of the area, followed by construction of the proposed facility. These activities have the potential to affect archaeological and historical sites and this survey was conducted to identify and assess archaeological and historical sites which may be in the project area. For this study an area of potential effect (APE) 1.0 mile around the proposed substation was assumed. It should be noted that the area is currently affected by an existing transmission line and substation. The proposed substation will be similar in vertical scale, although it will significantly increase the amount of ground incorporated in the facility.

Consultation with the S.C. Department of Archives and History revealed no previously identified NRHP sites within the 1.0 mile APE. There are, however, twelve previously architectural sites with two of these sites, 5310103 and 5310114, determined eligible for inclusion on the National Register. Site 5310103 is a ca. 1900-1910 one or two-room schoolhouse while 5310114 is a ca. 1915 farm complex.

An investigation of the archaeological site files at the S.C. Institute of Archaeology and Anthropology revealed no archaeological sites within the 1.0 mile APE.

The archaeological study of the tract incorporated shovel testing at 100-foot intervals along transects placed at 100-foot intervals within the proposed substation area, which had been clearly marked on the ground and cleared of vegetation at the time of this investigation. All shovel test fill was screened through ¼-inch mesh and the shovel tests were backfilled at the completion of the study. A total of 36 shovel tests were excavated along 11 transects in the survey tract. No archaeological sites were identified as a result of these investigations.

A survey of public roads within 1.0 mile of the proposed undertaking was conducted in an effort to identify any architectural sites over 50 years old which also retained their integrity. Each of the previously identified historic structures were located to verify their continued existence. No additional photographs were taken (except for those previously determined eligible), nor were new survey cards completed for these sites. At the two eligible sites an overview photograph was taken, as well as a photograph looking toward the proposed substation.

Also, all the public roads within the APE were driven in order to located any other previously unidentified sites – three were located. One is a ca. 1940 CMU store with a gable roof; the second is St Stephens Church Cemetery, dating about 1900; and the third is the Ebenezer United Methodist Church Cemetery, with graves dating to ca. 1865. The store, while an interesting example of this rural site type, is in deteriorated condition

and is not individually significant. It is recommended not eligible for inclusion on the National Register. The two cemeteries are both recommended as potentially eligible for inclusion on the National Register under Criterion C, distinctive design or physical characteristics and D, potential to provide important information about prehistory or history.

Neither of the previously identified eligible sites or the two sites recommended potentially eligible can be seen from the proposed substation. Consequently, we do not believe there will be any visual intrusion and recommend no modification of the proposed plans.

Finally, it is possible that archaeological remains may be encountered in the corridor during construction. Construction crews should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the State Historic Preservation Office or to Chicora Foundation (the process of dealing with late discoveries is discussed in 36CFR800.13(b)(3)). No construction should take place in the vicinity of these late discoveries until they have been examined by an archaeologist and, if necessary, have been processed according to 36CFR800.13(b)(3).

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INTRODUCTION

This investigation was conducted by Dr. Michael Trinkley of Chicora Foundation, Inc. for Mr. Tommy L. Jackson of Central Electric Power Cooperative. The work was conducted to assist Central Electric Power Cooperative comply with Section 106 of the National Historic Preservation Act and the regulations codified in 36CFR800.

The project consists of a tract of land measuring approximately 5.6 acres, situated in the eastern portion of Orangeburg County about 4.5 miles east of the city of Bowman (Figure 1). The substation is situated next to an existing transmission line and substation.

The proposed substation tract consists of generally low, flat land that has been recently logged, but is situated next to a cultivated field to the west and pines and mixed hardwoods to the north. The nearest permanent water source is Cow Castle Creek which is located about 6,000 feet north of the survey area. It should be noted that a portion of the survey tract was under water due to the multitude of low and wetland areas located in and around this section of Orangeburg County.

The proposed tract, as previously mentioned, is intended to be used as a 69kV distribution substation. The existing station will be left in place, but will be decommissioned with the completion of the new substation, situated both to the northwest and southeast of the existing facility. Once decommissioned, the existing facility will remain incorporated in the new substation to provide additional space for future use. Landscape alteration, primarily clearing and construction, including erection of new transformers (about 30 feet in height — similar to those in the existing facility), and long-term maintenance of the substation, will cause complete damage to the ground surface and any archaeological resources which may be present in the survey area.

Construction, operation, and maintenance of the substation may also have an impact on historic resources in the project area. Although the project will not remove any structures, substations (as well as other above grade projects) may detract from the visual integrity of historic properties, creating what many consider discordant surroundings. As a result, this architectural survey uses an area of potential effect (APE) about 1.0 mile in diameter around the proposed facility. It is important, however, to note that this project involves the expansion of an existing facility — not the creation of a new one in an otherwise pristine area. Moreover, the project, while expanding horizontally, will involve no vertical expansion.

This study, however, does not consider any future secondary impact of the project, including increased or expanded commercial or industrial development of this rural section of Orangeburg County.

We were requested by Mr. Tommy L. Jackson of Central Electric Power Cooperative to conduct a cultural resources background check for the proposed substation on April 6, 2001. This incorporated a review of the site files at the South Carolina Institute of Archaeology and Anthropology. As a result of that work, no archaeological sites were found within the APE.

In addition, the South Carolina Department of Archives and History GIS was consulted to check for any NRHP buildings, districts, structures, sites, or objects in the study area. No NRHP sites were found within a mile of the survey, but twelve historical structures were identified with two of these structures, 5310103 and 5310114, recommended eligible for inclusion on the National Register of Historic Places. This work resulted

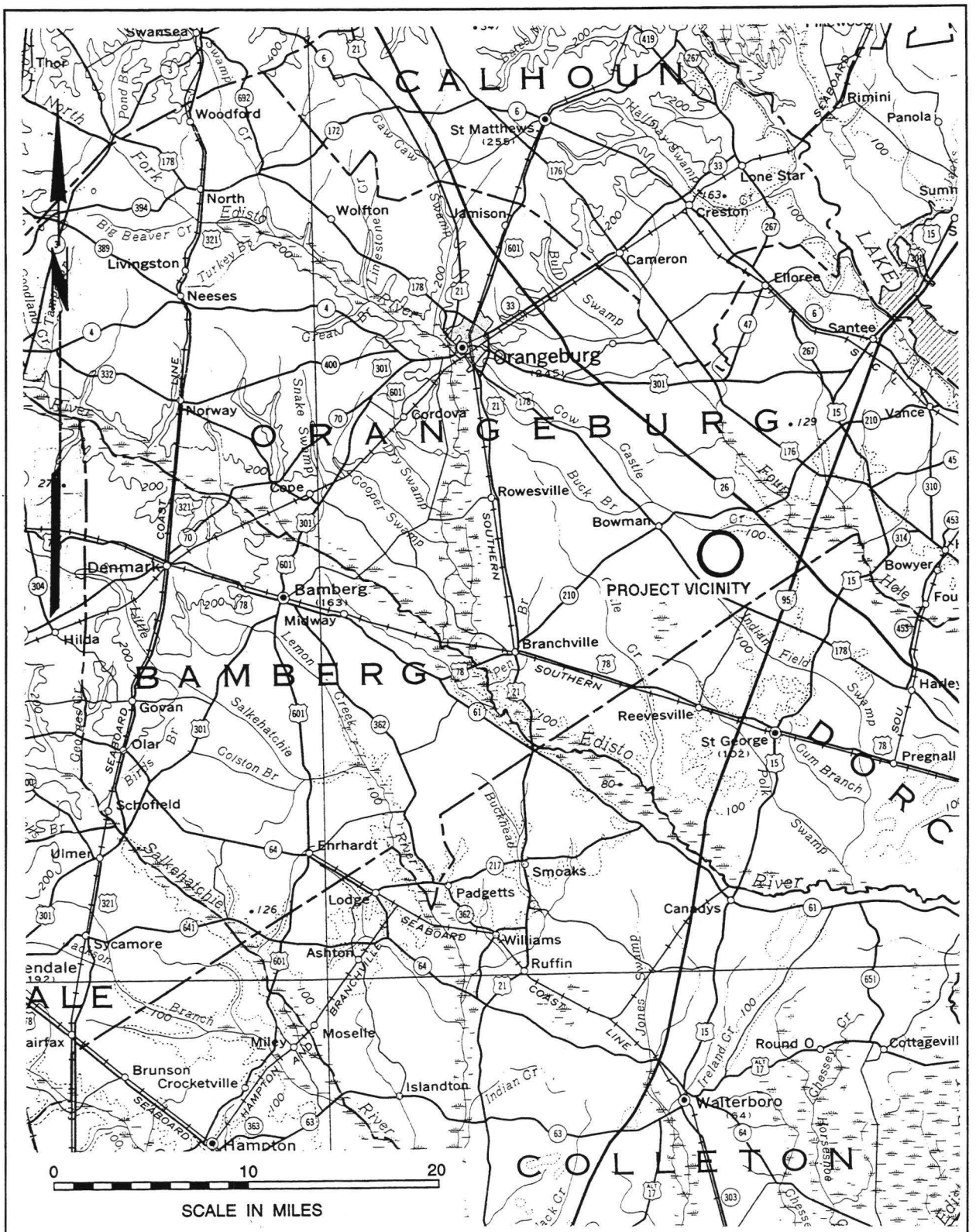

Figure 1. Project vicinity in Orangeburg County (basemap is USGS South Carolina 1:500,000).

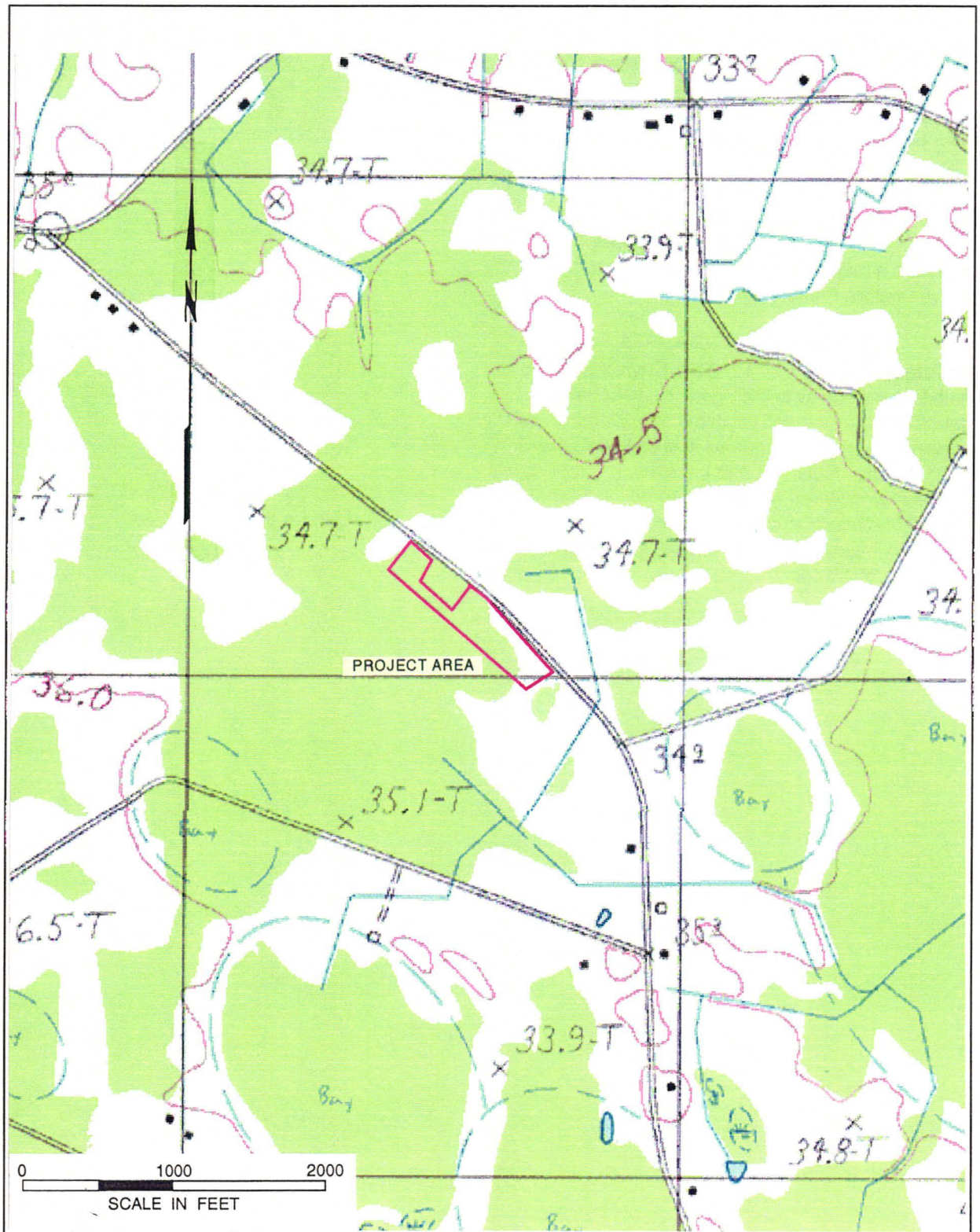

Figure 2. Survey area (basemap is USGS Wadboo Swamp 7.5').

from an investigation of the area surrounding the I-26 and I-95 intersection for the SC Department of Transportation (Joseph et al. 2000). Site 5310103 consists of a ca. 1900-1910 school house while structure 5310114 is a ca. 1915 farm structure. Both have been found eligible for inclusion on the National Register due to distinctive design or physical characteristics (Criteria C).

Archival and historical research was limited to a review of secondary sources available in the Chicora Foundation files.

The archaeological survey was conducted on August 10, 2001 by Mr. Tom Covington. The architectural survey of the corridor and substation, designed to review and validate the findings of the previous historic structures as well as to determine if there were additional historic sites in the APE, was also conducted on August 10 by Dr. Michael Trinkley. Report production was conducted at Chicora's laboratories in Columbia, South Carolina from August 13-15.

NATURAL SETTING

Physiography and Geology

Orangeburg County includes sections of both the Coastal Plain and also the Sand Hills, found south of the Fall Line. Elevations in the Upper Coastal Plain range from 350 to 220 feet above mean sea level (AMSL), with the topography being gently rolling. In the Sand Hills the topography may be more rolling and elevations range up to 400 feet AMSL. As Kovacik and Winberry (1987:20) observe, it can be very difficult to distinguish the Upper Coastal Plain from that of the Sand Hills or even the lower Piedmont. The flatter, and almost featureless, Coastal Plain topography is found further to the south and southeast, south of the Citronelle Escarpment (Orangeburg Scarp).

Bordering the Carolina Sand Hills is an area of discontinuous hilly topography characterized by rounded hills with gentle slopes, moderate relief, and sandy soils. Although technically part of the Coastal Plain geology, the Sand Hills are distinct geographically. Much of the sand was blown into dunes during the Miocene, although weathered clays and very old river deposits are also present. In many cases these sandy deposits lie directly on the crystalline rocks of the Piedmont (Kovacik and Winberry 1987; Murphy 1995).

The project area is located in the Middle to Lower Coastal Plain that, as previously described, contains a topography much flatter than the upper region of Orangeburg County. In fact, the entire tract is at an elevation of about 115 feet AMSL.

Orangeburg is situated in the south-central part of South Carolina. It is bounded on the north by Calhoun and Clarendon counties. To the east is Berkeley County, while to the south is Dorchester County. Bamberg and Barnwell counties are situated to the southwest and separated from Orangeburg by the South Fork of the Edisto River. Aiken and Lexington counties are on the northwest boundary. The county is still considered a rural area and about half of its 707,000 acres are still cropland, with much of the remainder being woodlands.

Western Orangeburg County is drained primarily by the North and South Forks of the Edisto River, which joint together in the lower reaches of the county, about 3 miles west of Branchville. Eastern Orangeburg is drained by Four Hole Swamp and the Santee River. The latter was dammed in the 1930s to create Lake Marion.

Mills also comments on the numerous creeks and rivers of the Orangeburg District. He notes that many were navigable (Mills 1972 [1826]: 664-665) and the highest quality lands are situated along the Edisto. Since the area was subject to flooding, however, relatively little of the land was in active cultivation. He remarks that, "owing to their being so narrow, they would require expensive embankments, which would probably not be repaid in the value of the land thus reclaimed" (Mills 1972 [1826]:659).

Mills also comments that "Orangeburg lies within the alluvial region entirely; the upper edge just dipping into the primitive or granite region" (Mills 1972 [1826]:657). Today we recognize that this "upper region" lies in the northwestern corner of the county, which includes only the Upper Coastal Plain and a small portion of the Sand Hills. We also recognize the complex geology of the Upper Coastal Plain where there are bedded sands overlaying kaolinitic clays and clayey, quartzose sands (Murphy 1995:93).

In this stone poor section of the state the nearest source of lithic materials for Native Americans would be the metamorphic and volcanic rocks of the Carolina Slate Belt which outcrop to


Figure 3. View of pines and hardwoods to the north of the survey tract.

the north of the survey area in Anson County, North Carolina and west along the fall line in southeastern Lancaster, northern Chesterfield, and Kershaw counties in South Carolina. Far closer are occasional deposits or outcrops of cherts and orthoquartzites (see Anderson et al 1979:11-12 for additional information).

Soils

Mills commented that the Orangeburg District included a variety of soils. Most were described as having "a light, sandy nature, thin soil, but bottomed on clay" (Mills 1972 [1826]:658). This clay bottom helps minimize the droughty nature of the sandy soils, many of which are characterized as excessively well drained. Along the Congaree and Santee rivers he observed a very different soil, described as "a stiff, red clay" found on rolling hills — a description of a small area of the piedmont which is today part of Calhoun County to the north (but which was originally incorporated in Orangeburg District).

Today we recognize that the survey area consists of only one distinct soil association. The Goldsboro-Noboco-Rains association consists of poorly drained to well drained soils of loam or sand. The subsoil is predominately loam.

Even though several different soils are shown in the area around the project site, only two series are represented within the proposed substation tract. Rains sandy loams encompass the majority of the survey tract. These soils have an A horizon of very dark gray (10YR3/1) sandy loam to a depth of 0.4 foot atop a grayish brown (10YR5/2) sandy loam to a depth of 0.7 foot. Beneath these two layers can be either a grayish brown (10YR5/2) sandy loam with faint brown (10YR5/3) mottles or, more common in this project area, a grayish brown (10YR5/2) sandy loam with yellowish brown (10YR5/6) mottles to a depth of 1.0 foot.

Only a very small portion of the survey area exhibited Goldsboro sandy loams. This series has an Ap horizon of dark grayish brown (2.5Y4/2) sandy loam to a depth of 0.7 foot over a light yellowish brown (2.5Y6/4) sandy loam to a depth of 1.3 feet.

The Rains soils are noted for their seasonal high water table, often found with the upper foot. Heavy rains immediately prior to the survey resulted in standing water on portion of the tract with Rains soils. In contrast, the Goldsboro soils rarely exhibit a water table higher than about 2.0 feet below the surface.

Floristics

In the early nineteenth century Mills comments that the river lands — especially those adjacent to the Edisto — were dominated by "the magnolia, beech, willow, ash, elm, oak, birch, walnut, and hickory" while in the deeper swamp

were "large groups of cypress, loblolly, bay, sweet bay, maple, tupelo, and poplar trees of an immense height and circumference" (Mills 1972 [1826]:658). In contrast, the uplands were dominated by pines.

The survey tract has been completely cleared of existing vegetation, although it was at one time covered by a mixture of pines and hardwoods much like the forest just north of the tract. Cultivated fields cover the western areas outside the survey tract.

Climate

This portion of South Carolina is dominated by the movement of systems across the country, but there are relatively few complete exchanges of air masses in the summer. This results in few breaks in the midsummer heat, with temperatures ranging from the high 80s to the low-90s. In contrast, winters are mild and relatively short. There are 45 inches of annual precipitation, with nearly 27 inches falling in the growing season (DeFrancesco 1988:2).

Like elsewhere in the state, Mills distinguished between the swamp lands and the sand lands in his assessment of Orangeburg's health:

> the sandhill section of this district presents as fine and healthy a climate as any country can boast of. Diseases are rare here . . . . Along the margins of the creeks and rivers, and within the influence of swamps, bays, and stagnant ponds, fevers and agues, bilious remittents, typhus, and other inflammatory diseases prevail" (Mills 1972 [1826]:664).

PREHISTORIC AND HISTORIC BACKGROUND

Previous Research

Orangeburg, for its size, has received relatively little attention. Derting et al. (1991) cite only 27 studies dealing with the county. Of these 13, or nearly half, are the result of road projects and an additional eight represent other forms of cultural resource studies, only three of which represent any significant aerial extent. The remaining six reports involve a variety of other research, with three specifically associated with work at the Alan Mack site (38OR67).

The Alan Mack site may be the best known archaeological site in Orangeburg County. It attracted considerable attention in the early to mid-1980s, culminating in its nomination to the National Register of Historic Places. The site exhibits nearly 30 inches of stratified deposits running from at least the Early Archaic (characterized at the site by Palmer points). Above this are levels representing Kirk, Guilford, Savannah River cultures. Above these are somewhat mixed deposits of Deptford and perhaps later pottery. Unfortunately no publications are available for the site beyond a series of papers presented at the Archaeological Society of South Carolina Annual Conference and occasional reports in the society newsletter. Nevertheless, this site is very similar to the Cal Smoak site (38BM4) in nearby Bamberg County for which there is a very detailed report (Anderson et al. 1979).

Prehistoric Overview

The Paleoindian period, lasting from 12,000 to 8,000 B.C., is evidenced by basally thinned, side-notched projectile points; fluted, lanceolate projectile points; side scrapers; end scrapers; and drills (Coe 1964; Michie 1977). The Paleo-Indian occupation, while widespread, does not appear to have been intensive. Points usually associated with this period include the Clovis and several variants, Suwannee, Simpson, and Dalton (Goodyear et al. 1989:36-38).

At least one Paleoindian point has been found in the Calhoun area, reportedly from the Little Bull Swamp Creek drainage (Goodyear et al. 1989:33). This pattern of artifacts found along major river drainages has been interpreted by Michie to support the concept of an economy "oriented towards the exploitation of now extinct mega-fauna" (Michie 1977:124).

Unfortunately, little is known about Paleoindian subsistence strategies, settlement systems, or social organization. Generally, archaeologists agree that the Paleoindian groups were at a band level of society, were nomadic, and were both hunters and foragers. While population density, based on the isolated finds, is thought to have been low, Walthall suggests that toward the end of the period, "there was an increase in population density and in territoriality and that a number of new resource areas were beginning to be exploited" (Walthall 1980:30).

The Archaic period, which dates from 8000 to 1000 B.C., does not form a sharp break with the Paleoindian period, but is a slow transition characterized by a modern climate and an increase in the diversity of material culture. The chronology established by Coe (1964) for the North Carolina Piedmont may be applied with little modification to the Calhoun County area. Archaic period assemblages, characterized by corner-notched, side-notched, and broad stemmed projectile points, are common in the vicinity, although they rarely are found in good, well-preserved contexts.

The Woodland period begins, by definition, with the introduction of fired clay pottery about 2000 B.C. along the South Carolina coast, about

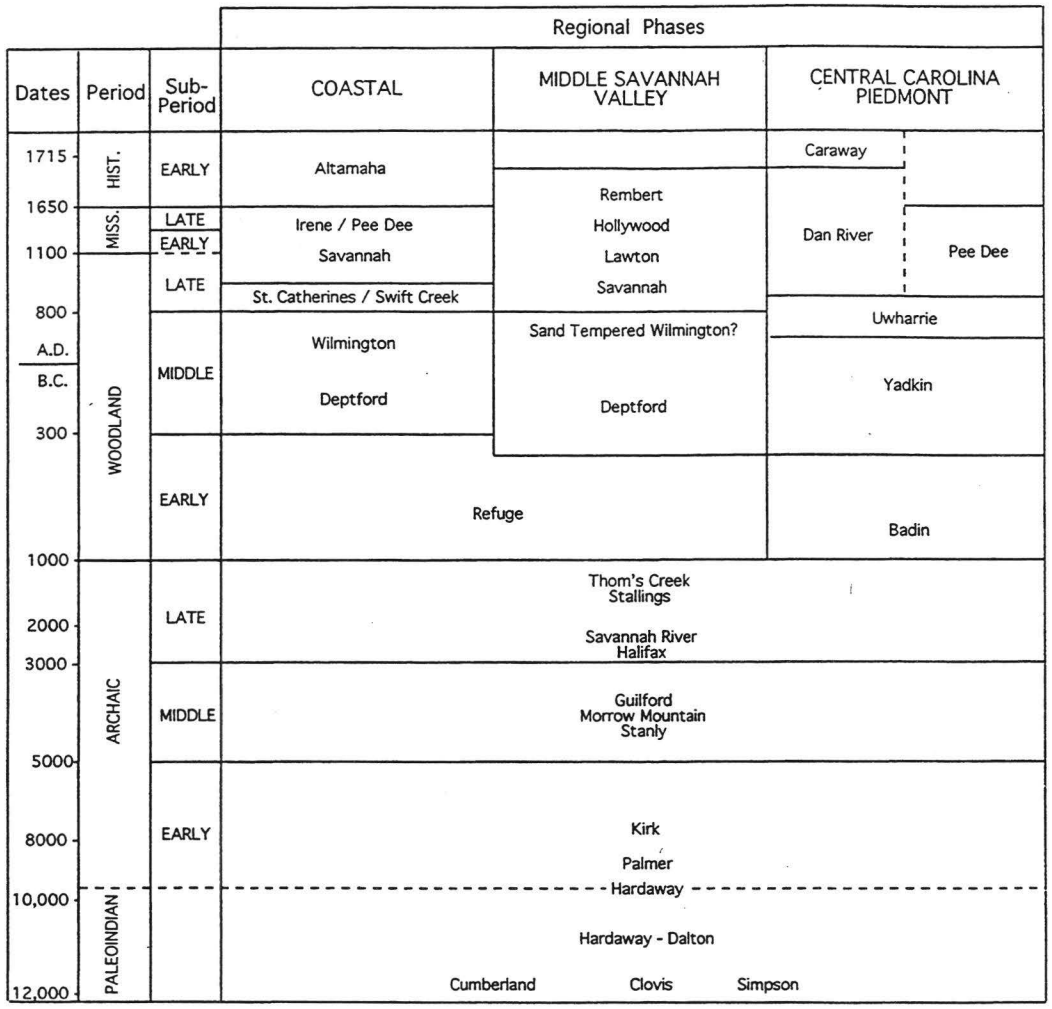

Figure 4. Generalized cultural periods for South Carolina.

1000 B.C. in the Upper Coastal Plain, and much later in the Carolina Piedmont, perhaps 500 B.C. It should be noted that many researchers call the period from about 2500 to 1000 B.C. the Late Archaic because of a perceived continuation of the Archaic lifestyle in spite of the manufacture of pottery. Regardless of terminology, the period from 2000 to 500 B.C. was a period of tremendous change.

The subsistence economy during this early period was based primarily on deer hunting and fishing, with supplemental inclusions of small mammals, birds, reptiles, and shellfish. Various calculations of the probable yield of deer, fish, and other food sources identified from some coastal sites indicate that sedentary life was not only possible, but probable. Further inland it seems likely that many Native American groups continued the previous established patterns of band mobility. These frequent moves would allow the groups to take advantage of various seasonal resources, such as shad and sturgeon in the spring, nut masts in the fall, and turkeys during the winter.

The South Appalachian Mississippian period, from about A.D. 1100 to A.D. 1640 is the most elaborate level of culture attained by the native inhabitants and is followed by cultural disintegration brought about largely by European

disease. The period is characterized by complicated stamped pottery, complex social organization, agriculture, and the construction of temple mounds and ceremonial centers. The earliest coastal phases are named the Savannah and Irene (known as Pee Dee further inland) (A.D. 1200 to 1550).

However little we know about the various small coastal tribes, considerably less is known about the protohistoric and historic tribes in the Coastal Plain. Mooney (1894:80), in his accounts of the east, mentions the areas of the Congaree and Santee, to the north of the project area, but he devotes only a modest two paragraphs to the Congaree and only slightly more to the Santee.

He notes that in 1701, Lawson found the Congaree "on the northeastern bank of the river below the junction of the Wateree" (Mooney 1894:80). In fact, Lawson's account (Lefler 1967:33-35) is the most detailed available for the tribe. He describes their town as consisting "not of above a dozen Houses, they having other stragling Plantations up and down the Country." He reported that they had lost much of their population to smallpox and other European diseases; in spite of this the Congarees were reported to be "kind and affable to the English, the Queen being very kind, giving us what rarities her Cabin afforded, as Loblolly [a thick gruel] made with Indian Corn, and dry'd Peaches" (Lefler 1967:35). Taukchiray suggests that this village was located on Pinetree Creek, although no archaeological effort has been made to locate the settlement (Hicks 1998:48).

Mooney reports that by 1715 their settlements had shifted to the south bank of the Congaree, perhaps on Big Beaver Creek (Mooney 1894:80). Taukchiray expands on this, suggesting "in 1712-1715, the Congaree lived on Congaree River — first on the west side (now Calhoun County), then on the east side (now Richland County)" with some "on the north/northeastern side of upper Congaree River around Gills and Mill Creeks, on the outskirts of present-day Columbia" (Hicks 1998:50).

The 1715 Yemassee War further reduced their numbers and destabilized their society. Taukchiray suggests that they left their Congaree heartland in late 1716 and moved to the "northwest side of the Waccamaw River in what is now Horry County" (Hicks 1998:50). They stayed in this area until joining the Catawba about 1736. Although largely amalgamated by the Catawba, Taukchiray reports that at late as 1760 one of the Catawba headmen was known to the English as "Congaree Jimmy" (Hicks 1998:50).

For the Santee we know that Lawson found them in the vicinity of the Santee Indian mounds in 1701 (Lefler 1967:25-29; Mooney 1894:79). Again the tribe is reported to live in small hamlets, with Lawson remarking, "there being Plantations lying scattering here and there, for a great many Miles" (Lefler 1967:25). In fact, the settlements continued up river at least to Jacks Creek, and there were hunting camps at least as far up as the High Hills of Santee (Hicks 1998:30).

Mooney reports that just prior to the Yemassee War there were still two village about 70 miles from Charleston and perhaps as many as 160 individuals (Mooney 1894:80). Taukchiray provides a little more detail, revealing that the remains of the tribe were captured by the English and Etiwan Indians and transported to Charleston. There the men were shipped to the West Indies as slaves and the women and children were turned over the Etiwans as slaves (Hicks 1998:30), marking the end of the tribe.

Historic Synopsis

The earliest settlement in the area appears to have begun with the 1704 grant to Robert Sterling of 570 acres on Lyons Creek — in what is today Calhoun County. Situated about 4 miles south of St. Matthews on the Charleston Road, this seems to have served as a focus for additional settlement, largely by English and French Huguenots, who came to the area between 1735 and 1737 (DeFrancesco 1988:1; Mills 1972 [1826]:656-657).

Settlement in the area was also spurred by the township plan of Governor Robert Johnson in the 1730s. The Amelia Township was situated on the west bank of the Congaree and Santee

rivers, with the town site situated at the mouth of the Congaree. Settlement was particularly attracted to the areas of Buckhead, Lyons, and Halfway Swamp Creek (Smith 1977:9). It wasn't until the late 1740s that Amelia began to grow, but it quickly became a planters' parish and by 1757 the population had grown to 700 (Meriwether 1940:49-50). With the end of the Cherokee threat in 1761 the area attracted a second round of growth, with many small planters and farmers coming to the Wateree's west bank, below the shoals (Central Midlands Regional Planning Council 1974:142).

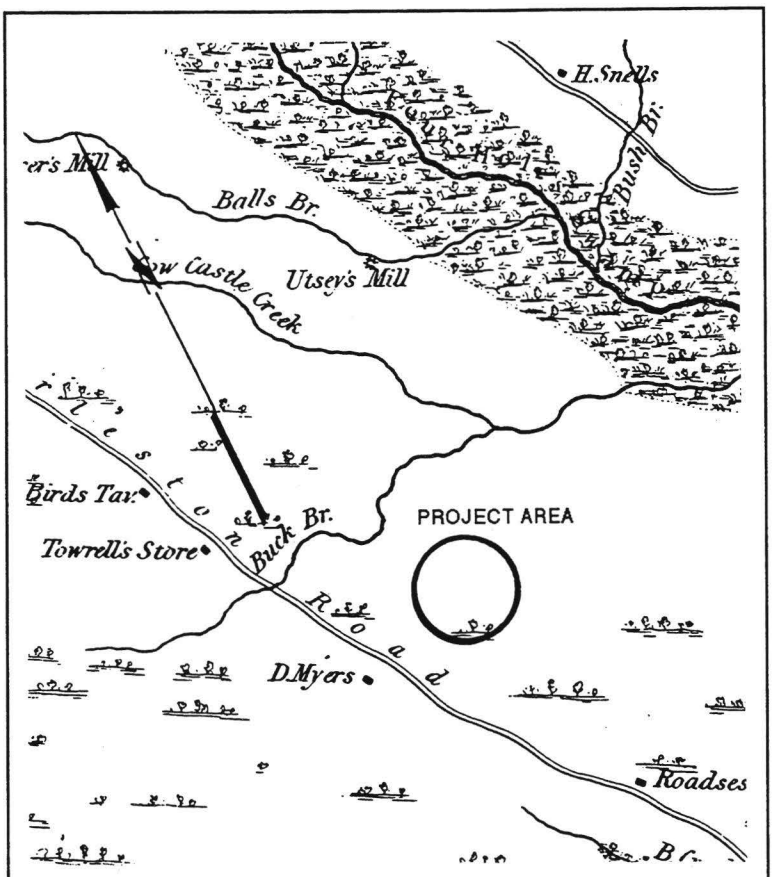

Figure 5. Portion of Mills' *Atlas* showing the project area.

Further to the south the Orangeburg Township was located on the east bank of the North Fork of the Edisto River, bordering Amelia to the north. The middle and upper sections, notably along the rivers, provided excellent agricultural land and this settlement attracted a variety of German and Swiss settlers. By 1740 the population had reached 500 (Meriwether 1940:45-46).

Originally part of Orangeburg District (which was established in 1769), the 1785 act divided the district into Lewisburg (along the river), Orange, Lexington (to the north), and Winton (an early version of Barnwell along the Savannah). These counties, however, were abolished in 1791 and the Orangeburg District was reinstituted. By 1804, however, the district was again subdivided, this time into Lexington (1804), Orangeburg, and Barnwell (1800). Consequently, by the time Mills discussed the region in 1820, Orangeburg was an elongated district and Mills observed that, "its figure is very irregular, having a kind of peninsula, or long narrow strip, running between two rivers, upwards of twenty-six miles from the main body of the district" (Mills 1972 [1826]:657).

During the colonial period Orangeburg was at best a small village, containing several taverns and stores, a courthouse, a jail, both a Lutheran and an Anglican church, and a few small residences (Edgar 1998:163). The jail, built in 1770, was the one which General Sumter:

> besieged and took, during the revolutionary war. The British had a garrison there consisting of 70 militia and 12 regulars. This village was for some time the seat of war. After Lord Rawdon had retreated from Camden, he took up his quarters here, whither he was pursued by Gen. Green, who offering him battle; but his lordship, secure in his strong hold, would not venture out; and Gen. Green was too weak to attack him in his works, with any prospect of success (Mills 1972 [1826]:662-663).

It was also during this same campaign that General Green and his partisans attacked and took over Fort Motte (in what is today Calhoun County) (Edgar 1998:237).

By the second quarter of the nineteenth century there were only three settlements in Orangeburg. The village of Orangeburg was "not favorably situated for health" according to Mills, although it was "tolerably central to the district." The second was the village of Poplar Spring, about 4.5 miles west of Orangeburg and used primarily as a summer residence. The third settlement was the village of Totness, on the north side of High Hill Creek, about 3 miles from the Congaree River. It, too, was primarily a summer village for the planters, which Mills described as "pleasant . . . and much frequented" (Mills 1972 [1826]:663).

Between 1800 and 1820 the population of the Orangeburg District had increased by over a third, from 10,155 to 15653. But the proportion of white increase was modest, from 5,957 in 1800 to 6,760 in 1820. The African American slave population, however, had more than doubled, from 4,110 to 8,829. This clearly documents the rise of plantations in the region, primarily along the rivers where the best lands were situated. Although Mills comments that there was a lively timber export trade from the district and that the German settlers "made a decent living" from growing corn, "cotton engrosses most attention" (Mills 1972 [1826]:660). It was certainly cotton which supported the increase in African American bondage in the region. Mills' map of the district reveals that the proposed corridor, just five years after these statistics were taken, is passing through areas with relatively little settlement.

By 1850 the population had increased to 18,519, with 15,384 (83%) of these being African American slaves. Orangeburg had 1,206 farms, with an average of 150 improved acres. The district produced 614,418 bushels of Indian corn, ranking it 13th (out of 29). Also produced were 1,299,379 pounds of rice, ranking Orangeburg fifth in the state, behind fourth ranked Charleston with 16,906,273 pounds, but ahead of sixth ranked Anderson District (with 956,940 pounds). In spite of the slave population, Orangeburg District produced only 10,024 bales of cotton, ranking it thirteenth (DeBow 1854). Lawrence observed that while wheat was grown, it was affected by rust in the late antebellum and stopped being produced until rust-resistant varieties were introduced after the Civil War. He, too, reports that the region's attention was focused on cotton, which remained the area's primary crop until the mid-twentieth century when its prominence was shattered by soybeans (Lawrence 1963:128).

Orangeburg saw little impact from the Civil War until the end, when Sherman's troops came up the north side of the Edisto, followed the North Fork into the city of Orangeburg, which was burned, and then continued north into what is today Calhoun County, crossing over the Santee River (Glatthaar 1985).

After the Civil War, with slaves no longer providing easy labor for the cotton plantations, the economy was stagnant and a slow period of rebuilding began. The remaining decades of the nineteenth century were focused on the dual goals of restoring the economy and ensuring that African Americans remained in a state as closely as possible resembling bondage.

The hiring of freedmen began immediately after the war, with variable results. The Freedmen's Bureau attempted to establish a system of wage labor, but the effort was largely tempered by the enactment of the Black Codes by the South Carolina Legislature in September 1865. These Codes allowed nominal freedom, while establishing a new kind of slavery, severely restricting the rights and freedoms of the black majority. Added to the Codes were oppressive contracts which reinforced the power of the plantation owner and degraded the freedom of the Blacks. Many white planters formed "Democratic Clubs," designed to counter the "radical" influence. Members of these clubs resolved not to hire "radicals," or blacks associated with radical politics.

While cash labor was initially used, gradually owners turned away from wage labor contracts, at least partially because of the scarcity

of money, but also because of the prevailing belief among whites that blacks were so lazy that with money in their pockets they would not work. In its place two kinds of tenancy — sharecropping and renting — developed. While very different, both succeeded in making land ownership very difficult, if not impossible, for the vast majority of Blacks.

Sharecropping required the tenant to pay his landlord part of the crop produced, while renting required that he pay a fixed rent in either crops or money. In sharecropping the tenant supplied the labor and one-half of the fertilizer, the landlord supplied everything else — land, house, tools, work animals, animal feed, wood for fuel, and the other half of the needed fertilizer. In return the landlord received half of the crop at harvest. This system became known as "working on halves," and the tenants as "half hands," or "half tenants."

In share-renting, the landlord supplied the land, housing, and either one-quarter or one-third of the fertilizer costs. The tenant supplied the labor, animals, animal feed, tools, seed, and the remainder of the fertilizer. At harvest the crop was divided in proportion to the amount of fertilizer that each party supplied. A number of variations on this occurred, one of the most common being "third and fourth," where the landlord received one-fourth of the cotton crop and one-third of all other crops. In cash-renting the landlord provided the land and housing, with the renter providing everything else and paying a fixed per-acre rent in cash.

An 1884 account of the county revealed that while there was only one textile mill (in the town of Orangeburg), there were 112 grist mills scattered across the countryside, along with 31 flour mills. All were using water power. As a vestige of the area's rice cultivation there was also one rice mill. Cash wages, when paid, were $4 to $6 a month, with rations, a house, and a small garden spot. The county had 322 cotton gins, each turning out about 4 bales a day. One of the most interesting observations was that South Carolina prohibition law was not observed and not enforced — apparently liquor flowed freely in Orangeburg (Anonymous 1884).

By 1900 the population of Orangeburg County was 59,663, with African Americans still dominating the population (41,442 or nearly 70%). By this time tenancy had become firmly established — there were 8,408 farms in the county, with an average size of just under 80 acres. Nearly 55% of the farms (n=4,613) were operated by cash tenants.

Nevertheless, Orangeburg recovered with a vengeance. By 1900 the county produced 1,172,520 bushels of corn, ranking it first in corn production. It's nearest competitor was Sumter with 762,120 bushels. Orangeburg also ranked first in cotton, producing 65,433 bales or 0.55 bale per acre (again its closest competitor was

Table 1.
Systems of Tenure

	Share-Cropping	Share Renting	Cash Renting
Landlord furnishes:	land housing fuel tools work stock seed half of fertilizer feed for stock	land housing fuel ¼ or ⅓ fertilizer	land housing fuel
Tenant furnishes:	labor half of fertilizer	labor work stock feed for stock tools seed ¾ or ⅔ fertilizer	labor work stock feed for stock tools seed fertilizer
Landlord receives:	½ of crop	¼ or ⅓ of crop	fixed amount in cash or lint cotton
Tenant receives:	½ of crop	¾ or ⅔ of crop	entire crop less fixed amount

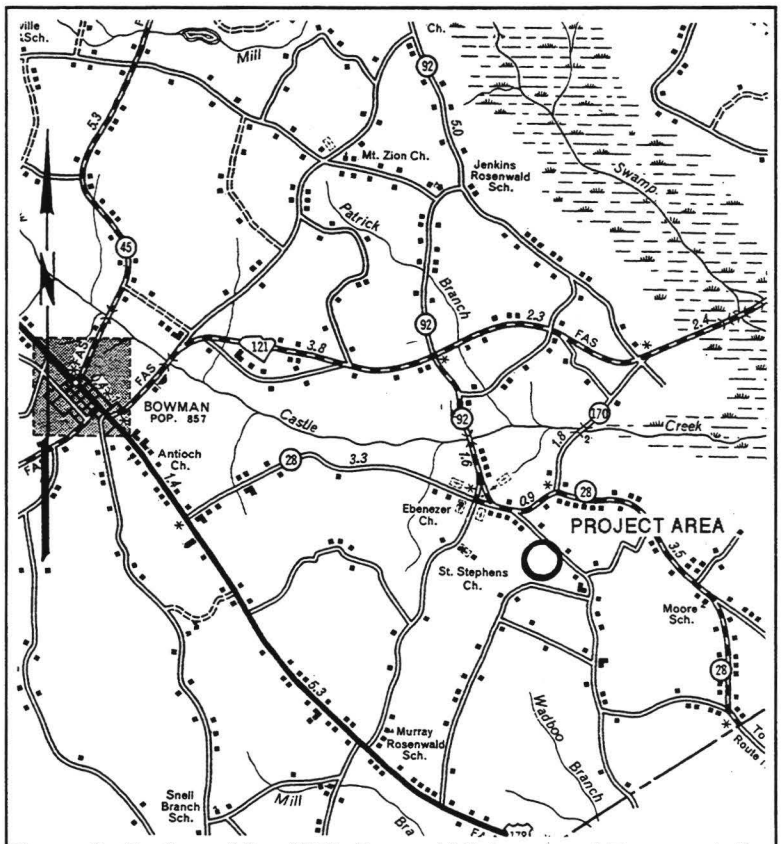

Figure 6. Portion of the 1951 *General Highway and Transportation Map of Orangeburg County.*

Sumter County, which produced 48,485 bales or 0.52 bale per acre). While a certain amount of Orangeburg's success was related to its size, it seems clear that the farms were generally profitably operated.

By 1920 there were 8,558 farms in Orangeburg County, most of which (n=4,037 or 47%) were between 20 and 49 acres in size. Two-thirds of those farms were operated by African Americans. Of the 8,558 farms, 5,644 (66%) were operated by tenants and 37% of these were share tenants, with an additional 25% being croppers. Orangeburg County was dominated by an agriculture focused solely on cotton and designed to maximize profits to owners while minimizing any hope for small farmers — black or white — to ever own land.

The 1920s, however, were the beginning of the end for cotton. Cotton and tobacco prices both collapsed in 1920. This was followed by both droughts and the boll weevil. Edgar observes that in 1930, "after nearly a decade of difficulties, South Carolina agriculture was about to go under. Farmland and buildings had lost more than one-half of their value. One third of the state's farms were mortgaged, and 70 percent of the state's farmers survived on borrowed money" (Edgar 1998:485).

In 1930 over 68% of all farms were operated by tenants. Only a third of these were operated by cash tenants, with the bulk operated by other forms, primarily sharecropping. The mortgage problem was worse in Orangeburg than statewide — fully two-fifths of the farms were mortgaged, with the average mortgage representing more than 40% of the farm's value.

Cotton production continued to fall, with only a brief upswing during the 1940s as a result of the war effort. While Orangeburg is still part of South Carolina's "cotton belt," production has declined by over 60% since 1949 and today less than 4% of the county's harvested land is devoted to cotton. Of far greater importance are soybeans, corn, wheat and specialty crops, such as cucumbers, watermelons, and cantaloupes (DeFrancesco 1988:2).

RESEARCH METHODS AND FINDINGS

Introduction

As previously indicated, the primary goals of this survey are to identify, record, and assess the significance of archaeological sites within the proposed substation footprint. No major analytical hypotheses were created prior to the field work and data analysis. This research design proposed for this study is fundamentally explorative and explicative.

Archaeological Field Methods and Findings

The majority of the survey tract had been cleared of vegetation, except for the north portion of the tract. The eastern section of the proposed substation was covered with standing water.

The initially proposed field techniques involved the placement of shovel tests at 100-foot intervals along transects laid out at 100-foot intervals. All soil would be screened through ¼-inch mesh, and each test numbered sequentially. Each test would measure about 1.0 foot square and would normally be taken to a depth of at least 1.0 foot or until subsoil was encountered. In the areas with wetlands or standing water, no shovel tests would be excavated. Notes would be maintained for profiles at any sites encountered.

Should sites (defined by the presence of two or more artifacts from either surface survey or shovel tests within a 25 foot area) be identified, further tests would be used to obtain data on site boundaries, artifact quantity and diversity, site integrity, and temporal affiliation. These tests would be placed at 25 foot intervals in a simple cruciform pattern until two consecutive negative shovel tests were encountered. The information required for completion of South Carolina Institute of Archaeology and Anthropology site forms would be collected and photographs would be taken, if warranted in the opinion of the field investigators. Sites which appeared to be eligible or potentially eligible for inclusion on the National Register of Historic Places would be recorded using a Garmin GPS 12XL rover using a Garmin 21 Beacon Receiver. We have found that this combination, in this part of South Carolina, is capable of providing potential horizontal errors of 6 m or less.

A series of 11 transects were laid out running west to east along the boundary of the substation on Duncan Chapel Road (Figure 7). A total of 36 shovel tests were excavated for the substation. The majority of shovel tests in the substation produced Rains soils consisting of a very dark gray (10YR3/1) sandy loam to a depth of 0.4 foot over a grayish brown (10YR5/2) sandy loam. Below these layers, most of the tests encountered a grayish brown (10YR5/2) with mottles of yellowish brown (10YR5/6) to a depth of 1.0 foot, although mottles of faint brown (10YR5/3) were also encountered.

Significantly less common on the tract were Goldsboro sandy loams which consist of an Ap horizon of dark grayish brown (2.5Y4/2) sandy loam to a depth of 0.7 foot over a light yellowish brown (2.5Y6/4) sandy loam to 1.3 feet.

Sites would be evaluated for further work based on the eligibility criteria for the National Register of Historic Places. Chicora Foundation only provides an opinion of National Register eligibility and the final determination is made by the lead agency in consultation with the State Historic Preservation Officer at the South Carolina Department of Archives and History.

Analysis of collections would follow professionally accepted standards with a level of intensity suitable to the quantity and quality of the remains.

Nevertheless, the archaeological survey of the 5.6 acre substation failed to identify any archaeological remains. This is most likely the

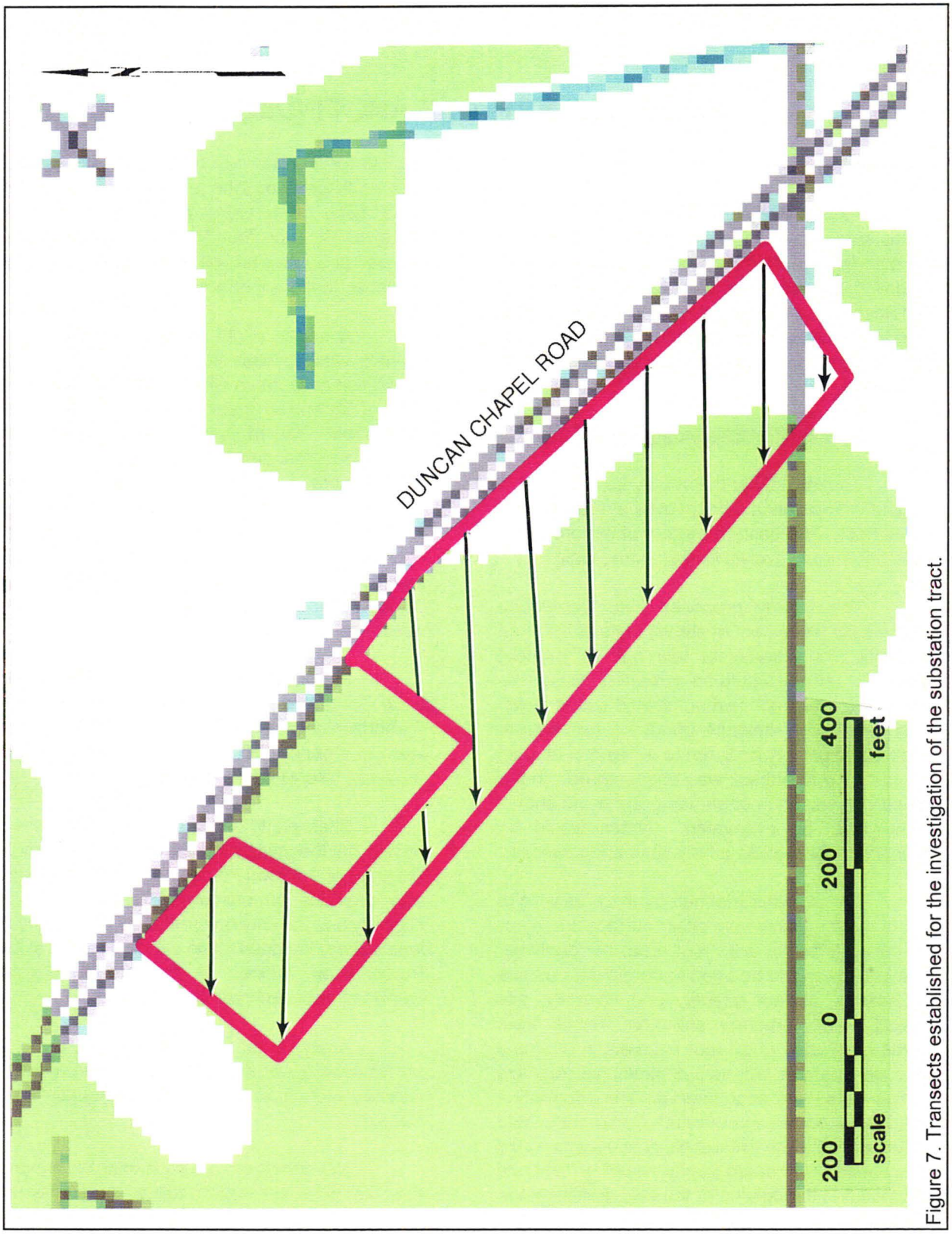

Figure 7. Transects established for the investigation of the substation tract.

result of the distance of this low area from any nearby drainages.

Architectural Survey and Findings

As previously discussed, we elected to use a 1.0 mile area of potential effect (APE). The architectural survey would record buildings, sites, structures, and objects which appeared to have been constructed before 1950 and which retained their integrity. Those which have undergone such extensive modifications to preclude their eligibility were not recorded.

For each identified resource an architectural survey form would be completed and one or two representative photographs would be taken. Permanent control numbers would be assigned by the S.C. Department of Archives and History at the conclusion of the study. The site forms for the resources identified during this study would then be submitted with this study for eventual submission to the South Carolina State Historic Preservation Office by our client.

The survey was conducted by driving the public roads (typically county or state secondary roads) in the APE. For this study the examined roads included Duncan Chapel Road (S-549), Ebenezer Road, Wamer Road (S-170), St. Stephens Road, Foliage Road, Ditch Bank Road, Old School Road, and Riser Road.

The background research on any individual properties found would be more limited than is the case on county-wide local history surveys. We would collect all of the information readily available to us in the field. In other words, where we find residents willing to discuss their property, we take advantage of this to collect additional information. We would not, however, pursue individuals who were not at home, attempt to make contact with others in the area, or aggressively seek out property owners. We do not propose to conduct deed research, nor did we search newspaper archives for property-specific citations.

For architectural sites the evaluative process would focus on using National Register Criterion C, emphasizing the site's "distinctive characteristics." Key to this concept is the issue of integrity. This means that the property needs to have retained, essentially intact, its physical identity from the historic period.

Particular attention would be given to the integrity of design, workmanship, and materials. Design includes the organization of space, proportion, scale, technology, ornamentation, and materials. As *National Register Bulletin* 36 observes, "Recognizability of a property, or the ability of a property to convey its significance, depends largely upon the degree to which the design of the property is intact" (Townsend et al. 1993:18). Workmanship is evidence of the artisan's labor and skill and can apply to either the entire property or to specific features of the property. Finally, materials — the physical items used on and in the property — are "of paramount importance under Criterion C" (Townsend et al. 1993:19). Integrity here is reflected by maintenance of the original material and avoidance of replacement materials.

In addition to the survey of new structures, there were also 12 structures previously identified for the general area (Joseph et al. 2000; Figure 8). Two of these sites have been determined eligible for inclusion on the National Register and these sites requires special attention to ensure that they would not be affected by the proposed undertaking.

Site 5310103 is a single-story wood-frame school located near the intersection of Ebenezer Road and Old School Road. It was constructed ca. 1900 by a local landowner, Robert Wannamaker (Joseph et al. 2000:23). The site was accepted eligible under Criteria A and C. The structure was found as reported (Figure 9) and is just under a mile east of the proposed substation. As shown in Figure 9, there is a mature pine stand immediately west and southwest of the structure. The vegetation, combined with the distance, make it unlikely that the integrity of this structure will be affected by the proposed undertaking.

Site 5310114 is a ca. 1915 farm complex constructed by John Ott and originally owned by

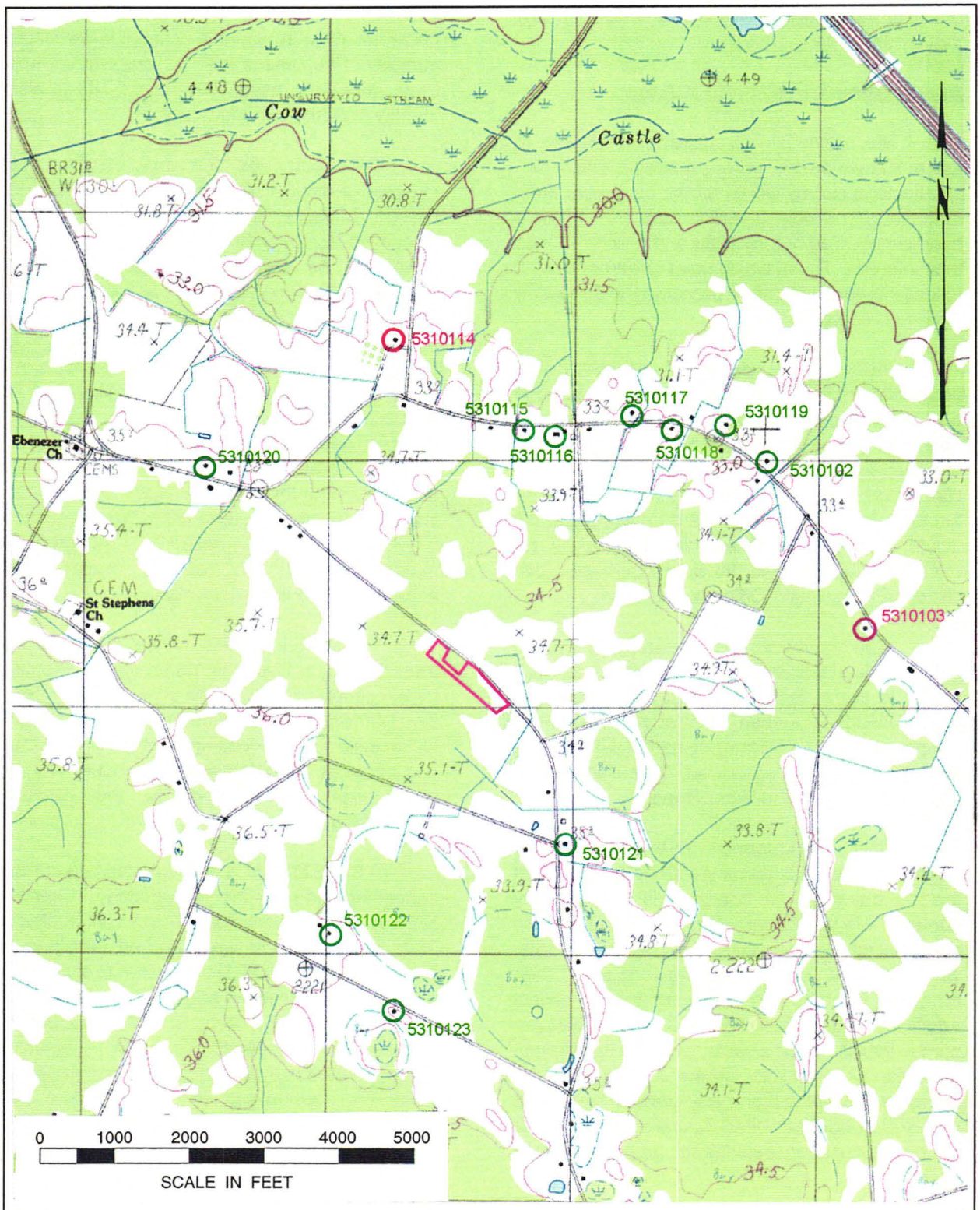

Figure 8. Architectural sites previously recorded in the APE. Those shown in green have been determined not eligible, those in red have been determined eligible for inclusion on the National Register.

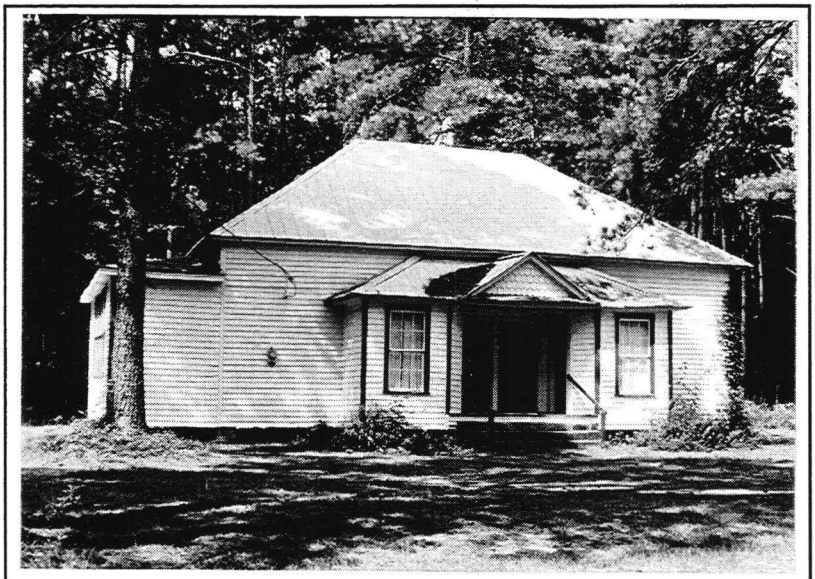

Figure 9. Structure 5310193, view to the west.

Thomas P. Whetsell. The house is associated with a number of historic outbuildings, including several barns, a shed, a windmill, and two wells (Joseph et al. 2000:Figure 11). It was accepted eligible under National Register Criteria A and C. The complex was found as reported (Figure 10) about 0.85 mile north-northwest of the proposed substation. Between the two is dense woods (Figure 11). The vegetation, again combined with the distance, makes it unlikely that this site will be affected by the proposed undertaking.

Figure 10. Site 5310114, view to the west.

The additional survey did record three additional sites (Figure 12).

Site 5310147 is situated on the northwest corner of Duncan Chapel Road and Foliage Road. It is about 2,000 feet southeast of the proposed new substation, but is currently screened from view by dense woods. The site consists of a one-story CMU store, ca. 1940, with an end-to-front gable metal roof. The windows are protected by iron bars and the building is currently in a deteriorated condition. While this is an interesting example of the rural economy typical of much of South Carolina, this structure is not in good condition and is not individually significant. It is recommended not eligible.

Site 5310148 is the St. Stephens Church Cemetery, situated on St. Stephens Road about 1,000 feet west of its junction with Two Church Road. While a church was once present, its previous location is marked only by slightly elevated ground to the east of the cemetery. The cemetery contains about 100 marked graves, with others identifiable only by depressions. Based on the marked graves it appears that the cemetery was in use at least by 1900. While commercial marble and granite markers are present, far more common are the more traditional concrete and vault markers. Marble military

Figure 11. View to the south of 5310114. The proposed substation is separated from the site by the thick stand of trees shown in the background.

markers are also present and several of the graves exhibit "living markers," such as cedar trees or camellia bushes. Of particular note, however, are the variety of concrete markers found in the cemetery — all seemingly representative of a single artesian or source. In fact, the workmanship is seen in a number of cemeteries throughout South Carolina, suggesting a well-organized, perhaps even regional, distribution system. This cemetery is recommended potentially eligible under Criteria C, distinctive design or physical characteristics, and D, potential to provide important information about prehistory or history (in particular bioarchaeological data on African American burials and burial practices).

The last new site, 5310149, is the Ebenezer United Methodist Church Cemetery, situated on the southwest corner of the junction of Two Church Road and Duncan Chapel Road. The church building, while clearly greater than 50 years in age, has been significantly altered by the additional of synthetic siding. Consequently, the church building itself was not included in the cemetery site. The main cemetery is found both east and west of the church building, with three additional family or kin-based plots found on the outskirts. The main cemetery area incorporates about 2 acres and appears to have been active since at least ca.

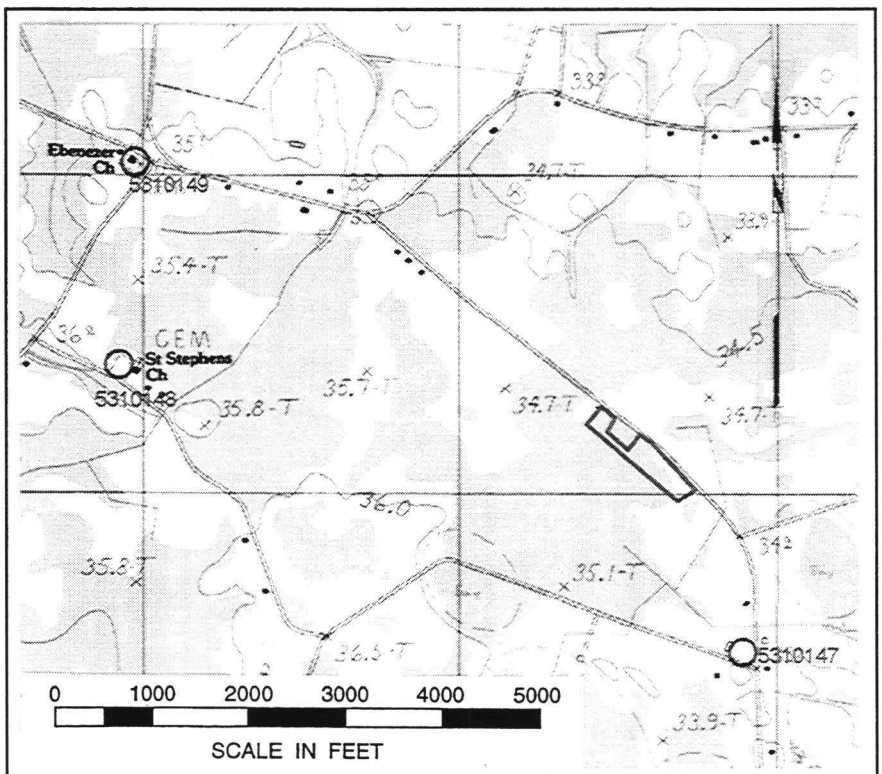

Figure 12. Additional architectural sites identified during this investigation.

Figure 13. Panoramic view looking southwest down Duncan Chapel Road from the existing substation.

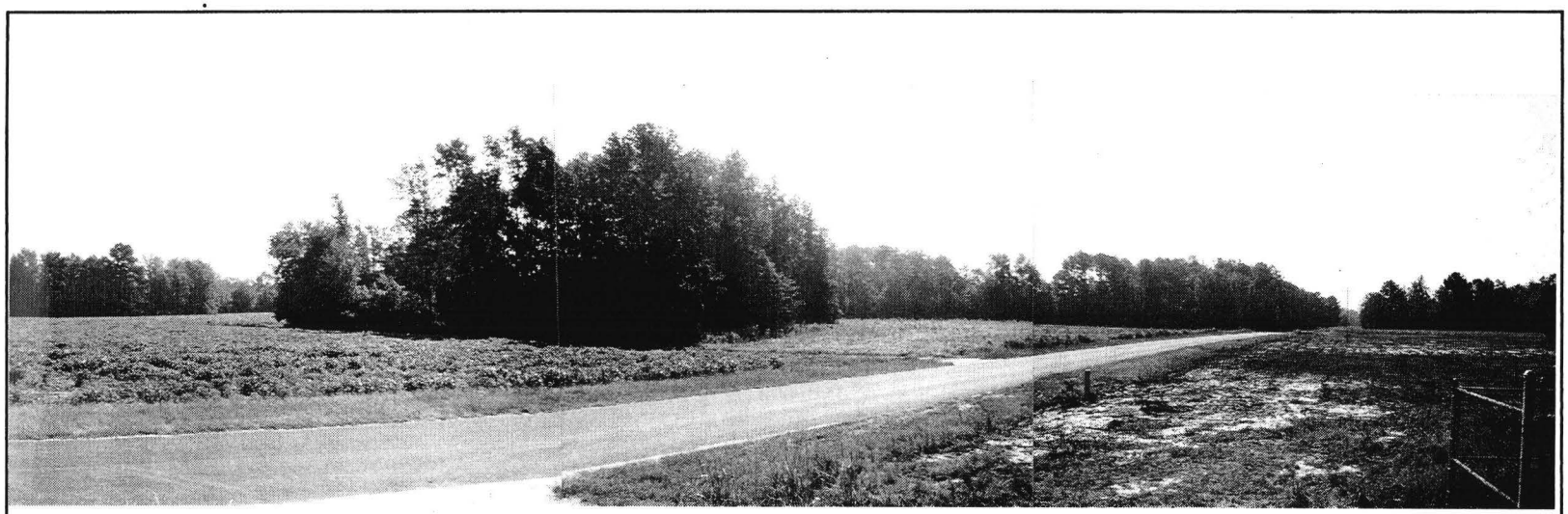

Figure 14. Panoramic view from the existing substation looking southeast down Duncan Chapel Road.

1865. The church includes modern markers, such as granite dies on bases, but the overwhelming majority of monuments date from the last quarter of the nineteenth century through the mid-twentieth century. Included are a range of pedestal markers, tabletstones, and small headstones. A quick survey of the cemetery even produced several stones signed by the Charleston stonecutter family of Walker.

This cemetery is recommended potentially eligible under Criterion C, distinctive design or physical characteristics. The form and organization of the cemetery is typical of rural white churchyards and the range of markers provides an excellent cross-section of common types and materials. The scraped sandy soil is very characteristic of Jeane's (1989) Upland South Folk Cemetery complex — which is increasingly difficult to find in most sections of South Carolina. While certainly not possessing all of the elements, the Ebenezer Church Cemetery has not yet entered what Jeane refers to as the "transitional" phase, when scraped surfaces and mounded graves are lost to grass. In addition, the cemetery is recommended potentially eligible under Criterion D, potential to provide important information about prehistory or history (in particular bioarchaeological data on rural white burials and burial practices). The cemetery exhibits a considerable range in age, as well as variation in family wealth. It is likely that the cemetery could contribute significant information on the diet, disease, and health of the population, as well as on community attitudes toward death and its commemoration.

Site 5310148, the St. Stephens Church Cemetery, is situated almost a mile from the proposed project. Intervening are dense woods and a drainage with tall hardwoods. The current substation cannot be seen from the cemetery and it is unlikely that even with some woodlot removal that the expansion of the substation will have any visual effect. Site 5310149, the Ebenezer Church Cemetery, is just over a mile from the proposed project. While on the same road, a bend makes it impossible to see the substation on the straight-away. In addition, there are at least four residences between the substation and the church, as well as a combination of woodlots and agricultural fields. As a result, we do not believe that either of the potentially eligible resources will be affected by the undertaking.

CONCLUSIONS AND RECOMMENDATIONS

This study involved the examination of 5.6 acres of land for a proposed substation situated in eastern Orangeburg County, South Carolina. The tract is proposed for the construction of a distribution substation to be used by Central Electric Power Cooperative. This study, conducted for Central Electric Power Cooperative, provides the results of that investigation and is intended to assist that organization comply with their historic preservation responsibilities.

The survey consists of an area recently cleared of vegetation. The archaeological survey, which included shovel testing, conducted at 100-foot intervals along transects placed at 100-foot intervals, revealed intact soils, but no evidence of cultural remains on the study tract. The wetland areas were not tested using shovel tests, but instead were surveyed using a pedestrian walk over.

The surrounding areas are still fairly rural. There are, however, twelve previously recorded historic structures located within the 1.0 mile APE. Two of these structures, 5310103, a ca. 1900-1910 schoolhouse, and 5310114, a ca. 1915 farm structure and complex, have been found eligible for inclusion on the National Register. Our investigations reveal that all of the historic structures have essentially remained unchanged since they were first recorded in 1999. Given the distance, topography, and vegetation, it does not appear that either of these sites, however, will be visually affected by the proposed undertaking.

There is also no indication that any of the remaining 10 structures warrants any additional evaluation. All appear not eligible for inclusion on the National Register.

The additional survey conducted for this study found three new sites: one structure (5310147) and two cemeteries (5310148 and 5310149). The structure is a small CMU corner store. While retaining some integrity, the structure is deteriorated and is not thought to be individually significant. We have recommended it not eligible for inclusion on the National Register. The two cemeteries are recommended potentially eligible, pending additional historical research and documentation, for inclusion on the National Register under criteria C and D. These sites are about a mile away from the proposed substation expansion and the properties are shielded from potential effects by dense vegetation and the distance. Consequently, we recommend no additional management activities.

It is possible that archaeological remains may be encountered in the area during construction. As always, the utility's contractors should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the State Historic Preservation Office, or Chicora Foundation (the process of dealing with late discoveries is discussed in 36CFR800.13(b)(3)). No further land altering activities should take place in the vicinity of these discoveries until they have been examined by an archaeologist and, if necessary, have been processed according to 36CFR800.13(b)(3).

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